

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/040904 A1

(51) International Patent Classification⁷: G02F 1/1365,
1/1343, G09G 3/36

(21) International Application Number:
PCT/KR2004/002740

(22) International Filing Date: 28 October 2004 (28.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2003-0075873 29 October 2003 (29.10.2003) KR

(71) Applicant (for all designated States except US): SAM-
SUNG ELECTRONICS CO., LTD. [KR/KR]; 416 Mae-
tan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742
(KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CHAI, Chong-Chul

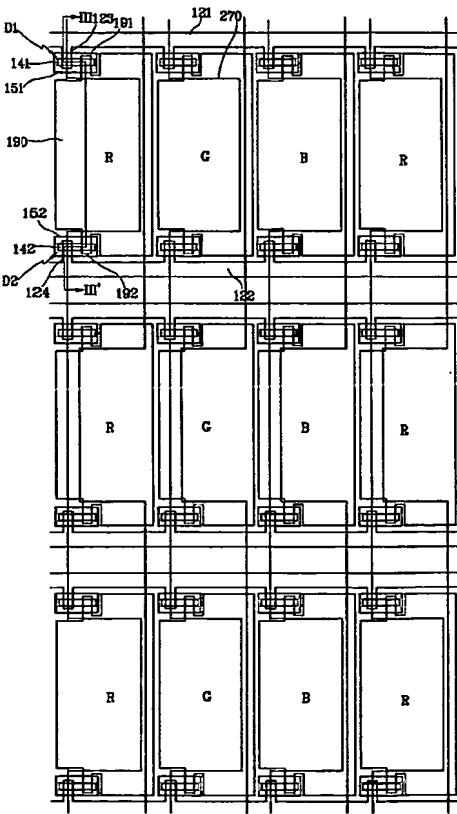
[KR/KR]; Samsung Apt.102-2001, Shingongduk-dong,
Mapo-gu, Seoul 121-090 (KR). SHIN, Kyoung-Ju
[KR/KR]; Samjeong Seonbi Maeul 102-504, 289-12,
Bora-ri, Giheung-eup, Yongin-si, Gyeonggi-do 449-900
(KR). OH, Joon-Hak [KR/KR]; Hyundai Apt. 105-205,
Sinrim 9-dong, Kwanak-gu, Seoul 151-790 (KR). KIM,
Jin-Hong [KR/KR]; 309-6 Bukgajwa 2-dong, Seo-
daemun-gu, Seoul 120-130 (KR). HONG, Sung-Jin
[KR/KR]; 84-1 Hwayang-dong, Gwangjin-gu, Seoul
143-915 (KR).

(74) Agent: YOU ME PATENT AND LAW FIRM; Seolim
Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080
(KR).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

[Continued on next page]

(54) Title: LIQUID CRYSTAL DISPLAY OF USING DUAL SELECT DIODE



(57) Abstract: A liquid crystal display comprising: a first insulating substrate; first and second gate lines (121,122) formed on the first insulating substrate; a pixel electrode (190) formed on the first insulating substrate; a first MIM diode (D1) formed on the first insulating substrate connecting the first gate line (121) and the pixel electrode (190); a second MIM diode (D2) formed on the first insulating substrate connecting the second gate line (122) and the pixel electrode (190); a second insulating substrate (210) facing the first insulating substrate; and a data electrode line (270) formed on the second insulating substrate and intersecting the first and second gate lines (121,122), and wherein the data electrode line (270) includes protrusions toward right and left sides by turns to overlap a predetermined number of pixel electrodes (190) of the right and left sides by turns is provided.

WO 2005/040904 A1



KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,